THE USE OF COMMUNITY EMERGENCY RESPONSE TEAMS AFTER A DISASTER

EXECUTIVE DEVELOPMENT

By: Ken Grimes
Key Biscayne Fire Rescue
Key Biscayne, Florida

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ABSTRACT

All areas of our country are subject to natural or manmade disasters with little or no warning. Earthquakes, floods, hurricanes, tornadoes, blizzards, explosions, and large hazardous materials incidents can strike at any time. When these disasters occur, citizens look toward their emergency service agencies. Because of the nature of disasters this assistance is not always readily available.

The problem is, following a natural or man made disaster, the existing emergency resources have not been adequate to perform a timely assessment of the community and prioritize the need for the provision of emergency and non emergency resources. The purpose of this study was to evaluate the feasibility of training citizens to assist in disaster recovery. If the research suggests it is feasible to develop a pilot training program, the project will identify essential elements for a CERT for Village of Key Biscayne. The following questions will also need to be answered:

1. What elements would be included in CE RT training to assure that volunteers are adequately prepared?
2. Who should be trained and who should perform this training?
3. How long should training be, and when should refresher training scheduled?

The purpose of this study was to evaluate, using historical and action research, whether emergency services could effectively train citizens to work as part of the disaster recovery effort. If the conclusion was that citizens could be used, then the obvious question is, who should be trained and what materials should be included in the training? In addition, who should perform this training and where should it be held?

The truth is that citizens will mobilize regardless of what the government does. Therefore, we must determine if we can protect them through training and, at the same time, have them assist emergency management personnel by becoming part of the Incident Management System.

The conclusions from this research indicate that citizens have been trained in other parts of the county in this capacity, therefore it is feasible to train Village of Key Biscayne citizens. Several limitations were noted including limited documentation of Community Emergency Response Teams (CERT) teams actually being utilized as a result of a disaster. This would have added valuable real life experience to our body of knowledge on the subject.

The general topics, as outlined in FEMA's CERT training manual, would have to be modified or customized to Village of Key Biscayne's identified risks. A pilot program should be implemented within the Village of Key Biscayne and, in fact, one was developed and is included in appendix A. After administering this pilot program, further study should be performed to evaluate its effectiveness.

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INTRODUCTION

The problem is, following a natural or man made disaster, the existing emergency resources have not been adequate to perform a timely assessment of the community and prioritize the need for the provision of emergency and non emergency resources. The purpose of this study was to evaluate the feasibility of training citizens to assist in disaster recovery. If the research suggests it is feasible to develop a pilot training program, the project will identify essential elements for a CERT for Village of Key Biscayne.

Historical and action research was performed to answer the following questions:

1. What elements would be included in CE RT training to assure that volunteers are adequately prepared?
2. Who should be trained and who should perform this training?
3. How long should training be, and when should refresher training be scheduled?

BACKGROUND AND SIGNIFICANCE

The Village of Key Biscayne is a barrier island off the coast of Miami, Florida. The Village Government was incorporated into existence in 1991 as a result of a community vote. Prior to their incorporation, the Village was part of the unincorporated area in Dade County. The Village Police and Fire Department were not placed into service until 1993.

In August of 1992 hurricane Andrew devastated south Florida. In Dade County, resources were inundated with up to 300 incidents waiting for an emergency response. An accurate assessment of the devastation could not be accomplished for several days.

Twelve hours prior to hurricane Andrew striking the coast of south Florida, Dade County emergency response personnel were evacuated from the Village of Key Biscayne. They did not return for over 72 hours after the storm had cleared. Many utilities were not restored 72 hours after the storm cleared. Many residents made their way back to the Island and were essentially on their own. They performed the functions of initial search and rescue and hazard mitigation within their own neighborhoods. With essential training, they could have been utilized as part of the overall emergency services system.

After hurricane Andrew, the need for professional emergency services within the Village of Key Biscayne became apparent. Even with their own emergency services, residents are likely to experience the same overwhelming need for assistance encountered by Dade County after hurricane Andrew. The fact remains that existing resources will not be sufficient to perform a timely assessment and initial triage of the community. By the implementation of a CERT program, Village residents could feasibly assist the emergency service agencies by learning to help themselves and their neighbors until professional help arrives.

This study demonstrates the effectiveness of team building, and is directly related to the National Fire Academy's Executive Development Course.

LITERATURE REVIEW

A literature review was performed to establish the importance and feasibility of forming a Community's Emergency Response Team (CERT) to aid the Village of Key Biscayne during post disaster activities. There are several CERT programs already in place throughout the nation, most of which are located in the western part of the nation. The purpose of these CERT programs is to improve, through training, community self-reliance, and therefore, survival ability in case of a large natural disaster (Burton, 1990, p. 55).

There are three communities that have published literature relating to their experiences with the CERT program. These include the City of Lake Oswego, Oregon, and the California cities of Los Angeles and Cathedral. Each of the three area programs reviewed, for the most part, mirror each other.

In the City of Los Angeles, the Community Emergency Response Team was developed using a variety of methods. Close interaction with the City Council allows the Fire Department to identify existing community groups with strong leadership and a large constituent base. The business community is becoming increasingly aware of the part that disaster preparedness plays in their ability to survive a disaster (Burton, 1990, p. 56). In addition to City Council contacts, special interest groups such as school district employees (Sample, 1997, p. 16), ham radio and citizens band (CB) operators (Slahor, 1997, p. 109) are also excellent areas for recruitment.

Recruitment efforts for this program should focus on four areas of the community. First, the neighborhood and residential civic leagues, religious organizations, and homeowners' associations are excellent, well established resources to serve on the team.

Being familiar with community leaders and caring about their community, they have a big stake in the recovery efforts and post disaster activities. Second, in the commercial areas of our community, the business leaders are prime candidates for team members. Located in high-rise office buildings, large hotels, and industrial complexes, the business leaders would have the most impact on the public during a disaster (Burton, 1997, p. 56). A third area for recruitment are City and School District employees. In order to maintain and improve disaster operations, and to aid with city recovery and reconstruction, emphasis is placed on training city and school employees (Burton 1990, p. 56). The last special interest group to consider are the ham and CB radio operators. Communications following a disastrous event are often impaired and this group can support the other three groups with communications (Slahor, 1997, p. 109).

Once the teams are organized, the training begins. There are several course curricula available for a CERT program. Both California programs tailored their curricula based on their hazard analysis (earthquakes). The Federal Emergency Management Agency (FEMA) has developed a more generic curriculum that can be tailored to any community. The FEMA program is similar in length and content to that of the California model. It consists of seven 2-½ hour sessions covering the following subjects (FEMA, 1994 a, p. xviii):

Class 1 Disaster Preparedness: An introduction to disasters, impact on infrastructure, building structures and non-structural items, and the role of CERTs in disaster responses.

Class 2 Disaster Fire Suppression: Identifying and reducing potential fire hazards, basic fire suppression strategy, fire fighting resources, and techniques.

Class 3 Disaster Medical Operations (Part 1): Treatment strategies for life threatening conditions, and the principals of triage.

Class 4 Disaster Medical Operations (Part 2): Medical operations conducted within treatment areas.

Class 5 Light Search and Rescue Operation: Search and rescue priorities and resources, techniques for situation size up, lifting, cribbing and victim removal and rescuer safety.

Class 6 Disaster Psychology and Team Organization: The post-disaster emotional environment, CERT organization, and decision making and documentation.

Class 7 Course Review and Disaster Simulation Exercise: Disaster Simulation.

Classes are recommended to be held over a seven-week period to accommodate work schedules of the volunteers.

Specific attention must be given to the specific needs of the adult learner. Learning depends on the relevance to the learner. Adults need to see how things help them. (Kidd, 1959, p.107-109) Students must be motivated to learn. There are many things that may effect his process, but in the case of CERT the relevance to "Life Problems" as defined by the American Red Cross. (American Red Cross, 1990, p. 7-8) These students will be highly motivated to learn in order to help themselves and others.

Making students see the relevance and importance of CERT training is an easy task in the case of Key Biscayne because of the recent devastation and subsequent lack of resources after hurricane Andrew.

The format of the CERT should be hands on in nature. Students learn the best by being hands on in the learning process.

In all training programs reviewed, at the successful conclusion of training, each CERT member was issued a green helmet and a vest for identifications purposes (Minor, 1996, p. 20). As a follow up to the training, most evaluated programs established monthly or quarterly continuing education of 2 ½ hours to maintain member's interest and to serve as a conduit for additional information.

Another important factor in the initial CERT training is the final scenario. Real world application of the CERT training will add greatly to the learning experience. (Batchler, p.159) Properly planned and executed, the final scenario can give a real sense of relevance to the training and allows the CERT participants to put their training to real life use.

Once in place, if disaster strikes, each team interacts with the fire department at predefined team meeting locations where they acquire such information as damage assessment, neighborhood emergency and non-emergency needs, and other issues related to recovery (Burton, 1990, p.56). CERT programs are most effective at the neighborhood level. Acting first on their own, then later as part of a team, these volunteers can deploy within their neighborhood. CERT volunteers are trained to extinguish small fires, turn off natural gas inlets to damaged homes, perform light search and rescue, and administer basic first aid (Burton, 1990, p. 57).

On January 17, 1994, the first true activation to a CERT was initiated by the City of Los Angeles's City Fire Department (LAFD). A powerful 6.7 magnitude earthquake had crippled the area (Minor, 1996, p.22). Because of the success of the CERT program in the City of Los Angeles, the Federal Emergency Management Agency quickly recognized the benefit of incorporating some of LAFD's experiences and approaches in other cities across the nation. As a result, a similar program is delivered at the Emergency Management Institute, Emmitsburg, Maryland (Minor, 1996, p.25-26).

CERT programs have been financed many different ways including local funds, FEMA grants, and donations (fund drives). In Cathedral City, California, the City has committed to the program by covering their CERT members on the City's insurance plan (Slahor, 1997, p. 108).

This summarizes the literature review for our research project. All CERT programs reviewed were very positively received by the community, and had strong support from all areas of each neighborhood including such organizations as the Chamber of Commerce (Slahor, 1997, p.110). The only concern expressed in any of the literature was the absolute need to have the administrative resources to properly manage and maintain such a program.

PROCEDURES

My research began at the Learning Resource Center (LRC) on the National Fire Academy campus in mid September 1998. A small group of Executive Development students participated in a brainstorming session to ferret out relevant topics that had value to the fire service. At the end of this brainstorming session we each walked away with a

topic for our applied research paper. I, having two papers due, walked away with two topics. Each member of the group assisted each other in relating relevant information about the others topic. This assistance included giving leads where information could be found, true life testimonials, brainstorming and actual help researching the topic.

I was able to find several articles related to CERT programs in recent periodicals. Another valuable resource was the CERT training manual, developed by FEMA. Other research materials included the CERT program lesson plan from the Miami – Dade County, Office of Emergency Management, Florida.

Attention was focused on pertinent information, which could be directly related to the identified problem and the associated research questions. Data deemed to be relevant to the problem or questions within this project were summarized and included within the appropriate section.

Limitations

The limitations of this research included: (a) the time restraints placed on the researcher because of other collateral duties; (b) my ability to learn and apply a new format for research methodology; and (c) a relatively small amount of documentation within the Learning Resource Center which could be linked to the project problem and associated questions. Specific concerns regarding a lack of literature within the following areas included: (a) little data could be found on the actual use or deployment of a CERT team in an actual disaster situation. In the absence of such real life data, program strengths and weaknesses are assumed by CERT team performance in the classroom setting, or in realistic drills designed to test their skills and abilities; (b) no data was

found on the actual objective evaluation of CERT team's performance and their member retention rates. If given time, interviews of actual CERT program coordinators could provide valuable data on testing procedures, skill maintenance, and volunteer retention; and (c) no data could be found identifying how civilians would respond emotionally, given the significant stress of facing a catastrophic event within their community. As this concern often has an impact on emergency service professionals, the research team could conclude that citizens, even with training, may be hampered by the overwhelming devastation of a disaster which impacts their neighborhood. Large scale Critical Incident Stress Debriefings (CISD) may be necessary after a disaster. Some component of CISD should be incorporated in the CERT training.

Definition of Terms

CERT – An acronym for Community Emergency Response Team. Other related acronyms include: Community (or Citizen's) Response Team (CRT), Neighborhood Emergency Team (NET), or Neighborhood Emergency Service Team (NEST).

Disaster – Any event that overwhelms existing resources to deal with the event. Disasters may be catastrophes of natural or manmade cause. Examples include: earthquake, hurricane, tornado, blizzard, flood, act of terrorism, civil disturbance, hazardous materials incident, or other significant emergency (FEMA, 1994 b).

Mitigation – The abatement or diminution of something painful, harsh, severe, afflictive, or calamitous. To cause or become less hostile (FEMA, 1994 b).

RESULTS

1. What elements would be included in CE RT training to assure that volunteers are adequately prepared?
2. Who should be trained and who should perform this training?
3. How long should training be, and when should refresher training be scheduled?

This study found that citizens have been effectively trained in several areas of the country to respond and assist emergency services in the event of major disasters. Specifically, the City of Lake Oswego, Oregon and the cities of Los Angeles and Cathedral in California, have developed working CERT programs. These programs have been found to receive wide community support. Participants are recruited from neighborhood and residential civic leagues, religious organizations and homeowners' associations as well as city and school district employees, businesses, and private radio operators. Generally, in the training for these programs, a curriculum similar to that of the Federal Emergency Management Agency's CERT program is modified to meet local needs. Topics such as disaster preparedness, fire suppression, medical operations, light search and rescue, psychology, and team organization are presented during the training sessions. FEMA's training consists of seven 2½-hour sessions. These are usually held at local fire stations or community centers and are facilitated by firefighters, paramedics, and others with specialized training. The training should be task oriented and to assess the participants grasp of the material, and to help in retention, there should be a final real life scenario as a putting it all together session.

Most programs established monthly or quarterly continuing education sessions of 2½ hours to maintain participants' interest. Because of the review of these three CERT programs, a pilot program was developed. Its outline is included as Appendix A.

DISCUSSION

We can expect that there will be potential roadblocks for the CERT program. As Fire Marshal Phil Sample identified in his article, (p.14) members within the Lake Oswego Fire Department were skeptical about the CERT Program and how the leadership of the City may view firefighters who need the assistance of the public during time of disaster. Sample concluded that, within his community, these fears were found to be without merit and that the CERT program now enjoys the full support of the City Council and the Fire Department. The concerns of Lake Oswego are not unique. The California cities of Los Angeles and Cathedral, experienced similar concerns as they began to develop and implement such teams.

While the concerns and questions related to issues such as training, insurance, liability, equipment, coordination, communications, and deployment are complex, they are not insurmountable. The cities mentioned in this paper have demonstrated that CERT programs are an effective vehicle that can mobilize trained and equipped citizens in time of disaster. The costs for implementing a CERT program (Slahor, 1997, p.13) are a small price to pay for the assistance provided by trained citizens who can help themselves and their neighbors following a disaster. As hurricane Andrew proved in 1992,Village of Key Biscayne is not immune from the reality of disasters. During, and after the hurricane, the volume of calls received over-taxed fire rescue resources. The Metro Dade 9-1-1

Communications Center had over 300 requests for assistance pending immediately following the hurricane. Many of these calls were minor in nature and did not require the response of either a law enforcement or professional fire rescue provider. Unfortunately, since no other emergency service was available, citizens did what they were trained to do, call 9-1-1.

The geography of the Village of Key Biscayne also warrants the consideration of having a CERT program. Village of Key Biscayne is a barrier island located seven miles southeast of downtown Miami. The Key is connected to Miami by one four-lane bridge. This bridge is the sole link for the 10,000 residents of Village of Key Biscayne to the mainland. If the bridge was unavailable for use, two significant scenarios may occur. First, mutual aid fire and emergency medical service (EMS) assistance from the neighboring City of Miami and Miami-Dade Fire Rescue Departments could be impeded, if not eliminated all together. Second, off-duty Village of Key Biscayne fire rescue personnel may not be able to return to work to staff reserve apparatus.

If such a disaster were to take place, all emergency responses on the island would be left up to the 7-10 on duty fire service personnel and the 4 police officers on duty. A CERT program would allow neighbor to help neighbor, thus freeing up vital fire and rescue resources for emergencies requiring a higher level of assistance.

RECOMMENDATIONS

While these recommendations are directed toward the fire and rescue services within the Village of Key Biscayne, Florida, they may be of value to emergency services

agencies in other communities. Communities which are faced with a depletion of resources to an overwhelming number of calls following a large scale disaster.

1. Develop and implement a pilot CERT program in the Village of Key Biscayne.

As stated in this paper, the benefits far outweigh the costs of a CERT program. The Village of Key Biscayne Fire and Rescue Department should begin the process of developing and implementing a CERT program. Much of the work needed to this program to be successful is already available from a number of agencies, many of which have also been identified in this paper. In addition, the Federal Emergency Management Agency provides training and technical assistance to communities implementing such programs.

2. Market CERT and recruit community volunteers

In order for CERT to be successful, a comprehensive marketing and recruiting program will need to be developed. The marketing campaign will be designed to inform the Village of Key Biscayne residents of the newly formed CERT program. This campaign would also inform (recruit) citizens as to how they can participate. An additional target of this campaign would be to work with the business community to gather needed equipment donations and fiscal resources.

3. Study the retention rates of the team members.

After the development and implementation of the CERT team, objectively study the feasibility of maintaining such a team over a long-term basis. Publish specific recommendations on team development and training and include that information in future research papers on this subject.

4. Gather information from other CERT team coordinators.

One limitations of this study is the lack of information from existing CERT teams. After the development and implementation of the training program that is attached in appendix A, develop a questionnaire that will gather information from other CERT team coordinators around the country and include that information in future research papers on this subject.

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APPENDIX A

THE VILLAGE OF KEY BISCAYNE PILOT CERT TRAINING PROGRAM.

Key Biscayne Fire Rescue
Community Emergency Response Team (CERT) Program

Basic CERT Course

Administrative Responsibilities

- Code of Conduct
- Rules and Regulations
- Hold Harmless Agreement *(Must be notarized)*
- The times for this and future sessions
- Materials required (Handout)
- Building a disaster preparedness kit (Handout)
- Certification upon course completion

Role of CERTs

CERTs are part of a big team:

- Office of Emergency Management
- FEMA
- Fire Rescue Department
- Emergency Medical Service
- Urban Search and Rescue
- Others

How CERTs fit into the "Big Picture"

- Emergency response personnel cooperate at many levels to provide effective immediate response capabilities
- Emergency service capability can be greatly enhanced by well-organized, well-trained, and well-managed CERTs that are able to:
    - Prepare in advance of a disaster event.
    - Respond in their communities to address *immediate* needs brought about by the disaster.

CERT Role is Twofold

You Will Learn How to Help Neighborhood Prepare for a Disaster By:

- Identifying Potential Hazards in Homes and Workplaces
- Reducing Hazards As Much As Possible Before a Disaster Strikes
- Storing Food, Water, and Other Supplies for Post-disaster Use
- Establishing Personal Communications Plan

Second Role of CERTs

You Will Learn How To Respond After A Disaster By:

- Conducting light search and rescue operations
- Performing triage on the injured

- Treating life-threatening and non life-threatening injuries until professional assistance can be obtained
- Locating and turning off potentially hazardous utilities wherever possible
- Suppressing small fires
- Helping disaster victims cope with emotional stress
- Communicating with community agencies

Disaster Preparedness

- Identify Risks Most Likely to Affect Your Community
- Learn How to Prepare for Disasters
- Roles and Functions of CERTs before disasters

Risks Most Likely to Affect Our Community
- Hurricanes and Coastal Storms
- Tornadoes
- Flooding
- Hazardous Materials
- Nuclear
- Terrorism

Disaster Aftermath

In the immediate aftermath of a disaster, needs will be greater than professional emergency service personnel can provide. In these instances, CERTs become a vital link in the emergency service chain.

Disasters Impact the Following:
- Emergency Services
- Infrastructure and Transportation
- Utilities
- Food and Water
- Fuel

Self-sufficiency and preparedness:
Prepare yourselves *first*, and then you'll be ready to assist the neighborhood
- Hazard Analysis of Home and Neighborhood
- Prepare Disaster/Hurricane Plan
- Plan for evacuation if necessary
- Review plan every May (Hurricane season starts June 1 and ends November 30)

Disaster/Hurricane Kit
- Water - How much?
- Food - What kind?
- Recovery documents - Where to store?

Checklists: Can Be Found at Most Major Food Stores and Home Improvement Stores

Includes information on:

- Hurricane/Disaster Kit Contents
- Evacuation Centers
- Important Telephone Numbers
- Flood Zones
- Evacuation Zones
- Special Needs Information
- Community Service Agencies

TEAM PROJECT: Prepare Neighborhood Analysis

- Do any of your neighbors have special needs?
- Do any of your neighbors have special tools, skills, or equipment?
- Do any of your neighbor's occupancies pose special risks?

Indicators of Storm Arrival

- Watch and warning phases are not reliable indicators of the time of arrival of a storm.
- All preparation must be completed prior to the arrival of tropical storm force winds (39 mph).
- Listen to the advice of local officials, and evacuate if told to do so.

After the Storm (Disaster)

- Check your home before joining team
- Wait until an area is declared safe before going outside
- Use a flashlight to inspect for damage including gas, water, electrical lines, and appliances
- Stay away from downed power lines
- If you smell gas or if there is a fire, turn off the main gas valve
- Switch off individual circuit breakers (or unscrew individual fuses)
- Do not use telephones except in emergencies
- Use a portable radio for information

Hazardous Materials

Protection: L.I.E.S.

- *Limit* the amount of hazardous materials in storage
- *Isolate* products in approved containers, store them inside enclosed cabinets, and protect them from sources of ignition
- *Eliminate* products that are no longer necessary by disposing of them properly
- *Separate* incompatible materials (e.g., chlorine products and ammonia)

Haz Mat Awareness

- Read the label
- If unsure of the product that has spilled *leave the area immediately* and 911
- Observe the material from uphill, upwind and at a distance until qualified personnel arrive
- Enlist others, if necessary, to help warn of the danger
- Evacuate to an uphill, upwind location

Protection for Disaster Workers

"Good Samaritan" laws that protect people who provide emergency care in a prudent and reasonable manner generally protect CERT members functioning in emergency service.

- Florida Statute, Chapter 252: Emergency Management
- Florida Good Samaritan Act: Florida Statute, Chapter 768.13

Summary

- Risks may be sudden and overwhelming
- Preparedness is the Responsibility of All residents
- Preparation is the best way to prevent an overwhelming Recovery period
- CERTs Function:
  - Improve community preparation
  - Improve response during the aftermath

CERT Medical Operations

Why Learn Disaster Medical Operations?
- The number of victims will exceed initial capabilities for treatment
- 40% of disaster victims can be saved by providing simple medical care!
- Survivors will assist others
- Might as well know what you are doing so you can help and not do more harm

CERTs are Trained to Provide:
- First Aid for Life Threatening Conditions
- First Aid for Less Urgent Conditions
- Triage: Greatest Good for the Greatest Number

Session Objectives
- Learn the Principles of Triage
- Identify Life Threatening Injuries
- Learn techniques for opening airways, controlling bleeding, and treating for shock
- Conduct triage under simulated disaster conditions
  - Organization of Disaster Medical Operations
  - Conducting Victim Assessments
  - Establishing Treatment Areas
  - Treating Wounds, Fractures, Sprains, and Other Common Injuries

Triage

- The Greatest Good for the Greatest Number of Victims
- Occurs as quickly as possible after a victim is located or rescued

Triage Categories
- Ambulatory: Victims with minor (or no) injuries who are able to walk
- Delayed: Injuries may require professional care, but immediate treatment is not imperative
- Immediate: Life threatening injuries that demand immediate attention
- Dead: CPR is not performed in the disaster environment

Triage Procedure
- Size Up: Stop, Look, Listen, and Think
- Conduct Voice Triage: Ask those who can walk to go to a designated area

Ambulatory Victims
- Issue Green Ribbons to survivors who are able to walk
- Instruct them to remain at a designated location
- Continue with Triage Operation

Triage = RPM

- Respirations
- Perfusion
- Mental Status

Respirations: Airway

- Shake and Shout
- If No Response:
  - Position the Airway
  - Look, Listen, and Feel
  - Respirations > 30: I (Immediate): Red Ribbon
  - Not Breathing after 2 Attempts: D (Dead): Black Ribbon
  - If Respirations < 30: Go to Perfusion

Perfusion: Bleeding

- Stop Uncontrolled Bleeding
- Perform Blanch Test
  - Greater Than 2 Seconds: I or Red Ribbon
  - Less Than 2 Seconds: Go to Mental Status

Mental Status

- Ask the victim to follow a simple command such as squeezing your hand
- If no response: I (Immediate): Red Ribbon
- If victim passes all RPM tests: D (Delayed): Yellow Ribbon

Triage Pitfalls

- Too much focus on one injury
  - Assess the entire victim
- Treatment (rather than triage) performed
  - Do not perform CPR at this time

Triage Review

- Greatest Good for Greatest Number
- Evaluation: RPM
  - Respiration: >30
  - Perfusion: >2 seconds
  - Mental Status: squeeze hand
- Tagging
  - Green: Minor/Ambulatory
  - Yellow: Delayed
  - Red: Immediate
  - Black: Dead

Life Threatening Conditions

- Airway Obstruction
- Excessive Bleeding
- Shock

Treating Airway Obstruction

- Shake and Shout
- Place one hand on the victim's forehead
- Place two fingers of the other hand under the chin and tilt the jaw upward while tilting the head backward
- Look for chest rise
- Listen for air exchange
- Feel for abdominal movement

Exercise: Opening the Airway

- Use the head-tilt/Chin-lift method on the victim to open the airway
- Use the head-tilt/Chin-lift method on the victim to open the airway without tilting the head

Controlling Bleeding

- Uncontrolled Bleeding Initially Causes Weakness.
- Victim Will Go Into Shock
- Eventually Will Die

Three Types of Bleeding

- *Arterial:* Arteries transport blood under high pressure. Bleeding from an artery is spurting bleeding. Usually bright red.
- *Venous:* Veins transport blood under low pressure. Bleeding from a vein is flowing bleeding. Usually deep or dark red.
- *Capillary:* Capillaries also carry blood under low pressure. Bleeding from capillaries is oozing bleeding

Three Methods for Controlling Bleeding

- Direct Local Pressure
- Elevation
- Pressure Points

Exercise: Controlling Bleeding

- Use direct pressure to control bleeding from a simulated wound on the right forearm just below the elbow
- Apply pressure bandage
- Elevate the arm
- Practice brachial pressure point on self

Shock

- Disorder resulting from ineffective circulation of blood.
- Also called Inadequate Perfusion
- Remaining in shock will lead to the death of cells, tissues, and entire organs

Main Signs of Shock

- Rapid and shallow breathing: Greater than 30 breaths per minute
- Skin cold and pale: Capillary refill greater than two seconds
- Altered level of consciousness: Unable to respond to simple commands
-

Treating Victims of Shock

- Lay victim on back
- Elevate feet 6-10 inches
- Maintain open airway
- Control obvious bleeding
- Maintain body temperature
- Avoid rough or excessive handling
- Should not eat or drink anything

Exercise: Treating for Shock

- You have come upon this victim who has been bleeding profusely from a wound of the upper arm for an undetermined period of time.
- The victim is now unconscious

Exercise: Conducting Triage

- Five minutes to conduct triage on each of the victims and determine how each should be tagged and treated
- Document the number of victims in each category

Summary

- Ability to open airways, control bleeding, and treat for shock are critical to saving lives
- Triage is a system for rapidly evaluating victims' injuries and prioritizing them for treatment
- Disaster medical operations require careful planning, teamwork, and practice

Organization of Disaster Medical Operations

Five Sub-functions of Medical Operations:

- Triage
- Transport
- Treatment
- Morgue
- Supply

Conducting Victim Assessments After Triage is Completed

- Determine extent of injuries and treatment
- Document injuries
- Wear personal protective gear
- Assess all victims
- Verbal/hands-on approach
- Pay careful attention
- Look, listen, feel

Head-to-Toe Assessment Verbal and Hands-on

- Head
- Neck
- Shoulders
- Chest
- Arms
- Abdomen
- Pelvis
- Legs
- Back *Demonstration*

Rules for Assessment

- Assess before treating unless injury is life threatening
- Victims have spinal injury unless certain otherwise
- Document

Indicators of Injury
Check for:

- Airway obstructions
- How the person may have been hurt
- Signs of shock
- Labored or shallow breathing
- Excessive bleeding
- Bruising
- Swelling
- Severe pain
- Disfigurement
- Provide immediate treatment for life-threatening injuries!

Closed Head, Neck and Spinal Injuries: Signs and Symptoms
Do No Harm -- Minimize Movement

- Change in consciousness
- Inability to move one or more body parts

- Severe pain or pressure in head, neck, or back
- Tingling or numbness in extremities
- Difficulty breathing or seeing
- Heavy bleeding, bruising, or deformity of the head or spine

Closed Head, Neck and Spinal Injuries: Signs and Symptoms

- Blood or fluid in the nose or ears
- Bruising behind the ear
- "Raccoon" eyes (bruising around eyes)
- Seizures
- Nausea or vomiting
- Victim found under collapsed building material or heavy debris

Only treatment of Closed Head, Head, Neck, or Spinal Injuryis <u>In-Line Stabilization</u>

Cervical collar and backboard is ideal

- Improvised Backboards: <u>Must be rigid!</u>
  - Door, Desktop, building materials, etc.
- Improvised Collars:
  - Towels, Draperies, Sandbags, Cardboard

DO NO HARM!

Backboard Immobilization Demonstration
(Found both prone and supine)

Exercise:
Head-to-Toe Assessment

- Each rescuer conduct victim assessment (Head-to-Toe)
- Each team immobilize victims who have a suspected spinal injury
  - Supine victim
  - Prone victim

Establishing Treatment Areas

Site selected should be:

- In a safe area, free of hazards and debris
- Close to, but upwind and uphill from, the hazard zone(s)
- Accessible by transportation vehicles
- Able to grow

Treatment Area Organization

- Should be planned in advance
- Assign Area Leaders
  - Ensure Orderly Victim Placement
  - Direct Assistants
- Documentation

- Identifying Information
- Physical Description (gender, race, clothing, etc.)
- Times (Assessment, treatment, transport, etc.)
- Injuries
- Treatment
- Location (where found, transport destination, etc.)

Burns

First Aid Objectives

- Cool the burned area
- Cover to reduce pain and the risk of infection (keep fluids in and germs out)

Classification of Burns

- First Degree: Reddened skin, pain, possible swelling
- Second Degree: Blistered skin, wet appearance, pain, possible swelling
- Third Degree: Whitened, leathery, or charred; may be painful or relatively pain free

Treating Burns: Do's

- Remove victim from burning source
  - Put out flames and remove smoldering clothing
- Cool skin with water (look for hypothermia)
  - No water for 3rd degree burns
  - Treat 3rd degree victims for shock
- Cover loosely with dry dressings to keep air out, reduce pain, and prevent infection
- Elevate burned extremities higher than the heart

Treating Burns: Don'ts

- Do not: Use Ice
- Causes vessel constriction
- Do not: Apply antiseptics, ointments, or other remedies (e.g. butter, aloe, etc)
- Do not: Remove shreds of tissue, break blisters, or remove adhered particles of clothing

Wound Care of Common Disaster Injuries

- Lacerations
- Amputations
- Fractures, Sprains, and Strains

First Aid Objectives:

- Control Bleeding
- Prevent Secondary Infection

- Clean wound -- Don't scrub
- Apply dressing and bandage

Wound Care: Applying Dressings and Bandages
- Dressings are applied to wound
- Bandages hold dressings in place

Demonstration
- Irrigate the wound (not 3rd degree burns)
- Apply clean dressing directly over wound
- Apply bandage to hold it in place

Rules for Dressing
- In the absence of active bleeding, remove dressing and flush and check wound at least every 4-6 hours
- If there is active bleeding, redress over existing dressing and maintain pressure and elevation

Amputations

First Aid Objectives
- Control Bleeding
- Treat for Shock
- Save tissue parts
- Wrap in clean material and place in plastic bag
- Keep parts cool
- Keep part with victim

Tourniquet Precautions
- Absolute last choice of treatment
- May cause permanent damage
- Do not remove

Impaled Objects

First Aid Objectives
- Control Bleeding
- Treat for Shock
- Do Not Remove
- Immobilize Object
- Clean and Dress Wound

Fractures, Strains, and Sprains

First Aid Objectives:

- Immobilize the injury and joints above and below the injury site
- Treatment depends on the type of injury

Fractures: Open vs. Closed

Closed: Broken bone with no associated wound

- Treatment: Splinting only

Open: Broken bone with wound that allows contaminants to enter fracture site

- Treatment:
  - Cover wound
  - Bandage bone end
  - Splint fracture without disturbing wound
  - Do Not: Draw exposed bone end back into tissue
  - Do Not: Irrigate the wound

Sprains, Strains, and Dislocations

- Signs and Symptoms Similar to Fracture
- Treat like Fracture
- Do Not try to relocate a suspected dislocation

Guidelines for Splinting

- Support the injured area above and below the site of the injury, including the joints
- Splint the injury in the position found
- Do Not try to realign bones or joints
- Check for proper circulation (warmth, feeling, and color)

Demonstration

Splinting Materials

- Soft Materials
- Rigid Materials
- Anatomic (adjacent body part)
- Sling

Exercise: Splinting

- Upper Arm
- Lower Arm
- Lower Leg

Summary

- Establish Treatment Areas ASAP
- Head-to-Toe: Verbal and Hands-on
- Burns: Remove, Cool, and Cover
- Wounds: Control Bleeding, Clean, Dress
- Fractures: Immobilize
- Team Effort

Basic Course: Part II

Disaster Psychology

- Survivors (victims and responders) normally experience a range of psychological and physiological reactions
- Expect anything and everything
- Will be discussed in more detail in future session

Steps to Help Survivors

- Establish rapport
- Listen
- Empathize
- Provide confidentiality
- Avoid Confrontations
- Keep people busy
- Don't take anything personally
- Don't take ownership of victims' problems!

Damage Assessment

Miami-Dade County Snapshot Damage Assessment Program

- Assess your area: Which picture most resembles the area?
- Call 305-273-6751
- Give the following at the prompt:
  - This is location # ____
  - The area looks like picture # ____
  - Please hang up

Putting It All Together

- We have learned specific strategies and tasks to use in specific situations
- We will learn how to pull together all you have learned together in a team environment using the CERT organization as a foundation

Flexibility

- Must be able to adjust to changing situations
- Must be able to fill a variety of roles as the situation changes
- CERT members' flexibility must come from each individual's ability to assess and manage his or her own personal situation

Purpose of On-Scene Management

- Ensure safety of disaster workers

- Provide clear leadership for rescuers
- Improve effectiveness of rescue efforts
- Provide manageable span of control

Objectives of CERT Organization

- Identify the scope of the incident
- Determine an overall strategy
- Deploy resources

Each CERT Must Establish a Command Structure

- Determine Leader
- Determine Command Post Location
- Decide:
  - Stay together and work together as a unit
  - Divide Into Emergency Response Teams (ERTs) to provide different services

Emergency Response Teams: Sub-groups used for specific purposes

- Triage and Damage Assessment
- Medical Operation
- Search and Rescue
- Fire Suppression
- Others

- Consists of at least three CERT members (may include recruits)
  - One serves as "runner" to communicate with command post
  - Others "buddy up" to respond to needs
- Each has a specific goal (e.g. search and rescue, triage, fire suppression, medical)
- Each has its own leader

CERT Decision Making

After the Incident:

1. Take care of selves, families, and homes
2. Proceed to staging area with supplies
3. Conduct Triage and Damage Assessment en route
4. Establish leadership via predetermined line of succession
5. Decide if team will split up or stay together

If Team Works as a Single Unit

- Actions must be prioritized based on:
  - Requirements of incident
  - Team capabilities
- Appoint Logistics Coordinator -- Tracks personnel and supplies

If Team Divides Into ERTs

- Actions must be prioritized
  - Search and Rescue
  - Triage
  - Medical Operations
  - Search and Rescue
  - Fire Suppression
  - Other

- Leader makes team assignments based on:
  - Requirements of incident
  - Team capabilities
  - Appoint Logistics Coordinator

Rescuer Safety

- Effective emergency scene management requires the formulation and communication of goals and objectives that are based primarily on the safety of rescue personnel.
- Do not enter an area that may be unsafe!
- Will learn more during Light Search and Rescue session

Documentation

- Improves efficiency
- Makes it possible for resources to be deployed effectively
- Each level of authority has documentation responsibilities

ERT Documentation: ERTs are responsible for providing the command post with the following information:

- Casualties
- Damage assessment
- Group status
- Ongoing needs

Command Post Documentation: In addition to managing information received from the ERTs, the command post is responsible for documenting the situation status including:

- Incident locations
- Support locations
- Access routes
- Identified hazards

Forms for Documentation

- CERT Casualty Report
- CERT Casualty List
- Damage Assessment Survey
- ERT Status Sheet
- Message Form
- Site Maps and building plans

CERT Casualty Report

- Issued to victims when first encountered by CERT member. (During triage)
- Write only the Victim ID# during triage
- Remains with the victim throughout the event
- Completed in the treatment area by the person providing treatment
- Given to the person transporting victim from treatment area

CERT Casualty List

- Started by triage ERT. Write Only:
  - Location of victim
  - Type of injury
  - Triage level
  - Victim ID#
  - Description
- Delivered to CERT Command Post
- Used for tracking purposes
- Completed at treatment area

Damage Assessment Survey

- Completed by ERTs
- Submitted to CERT Command Post
- Command Post submits information to EOC

- Provides a rating and summary of overall hazards in selected areas
- Used for prioritizing and formulating action plans

ERT Status Sheet

- Completed by CERT Command Post logistics person
- Used for:
  - Tracking personnel assigned to the group
  - Monitoring group accountability

Message Form

- Used for sending messages between command levels and groups
- May include messages regarding:
  - Casualty report
  - Damage report
  - Request for supplies
- Must be clear and concise
- Consider other forms of communications (e.g. hand held radios, cell phones, etc.)

Incident Status Record

- Used by the command post for keeping abreast of situation status
- It contains essential information for tracking the overall situation
- Similar to a log

Site Maps and Building Plans

- Used for visually tracking response activities
- Plastic overlays make it possible to update information on a continual basis
- May not always be available
- Good opportunity for CERT to familiarize itself with neighborhood

Disaster Simulation

CERT Command Objectives:

- Identify the scope of the incident
- Determine an overall CERT strategy
- Set priorities and deploy resources

Perform the Following Functions

- Establish Leadership
- Establish Priorities
- Perform Appropriate Functions
  - Search and Rescue
  - Triage
  - Medical Operations
  - Damage Assessment
  - Documentation
  - Report to Authorities

CERT Response Stages

Stage 1: Response: Proceed to designated Staging Area (Incident Command Post)
Stage 2: Determine Leadership: Based on pre-determined line of succession
Stage 3: Assign Roles

- Select Logistics Coordinator
- Create ERT(s) to perform triage and damage assessment
- Designate ERT Leader(s)

Stage 4: Initiate Response

Step 1: Conduct Triage and Assess Damage:

- Dispatch ERTs to conduct triage and assess damage. Report back to Command Post with information ASAP
- Each team recorder will enter Victim ID#, Location, RPM, type of injury and Tag Color on CERT Casualty List ONLY
- A CERT Casualty Report will be left with each victim with only their ID# entered. This report remains with the victim at all times!

Step 2: Gather Information and Assign Tasks: CERT Leader will determine plan of action based on information provided by Triage and Damage Assessment teams. This plan may include any or all of the following functions:

- Medical Operations
- Search and Rescue
- Fire Suppression
- Once a task is completed, the ERT will advise the command post and prepare for next assignment.

Stage 5: Medical Operations

Treatment Area Operations:

- Divide area into green, yellow, and red treatment areas
- Establish morgue for deceased victims at a separate location
- Provide treatment up to level of training and capabilities

Treating Victims in the field: Treat victims in the field if it is the only way the victim can be transported to the Treatment Area. (e.g. suspected spinal injury or serious leg injury)

Documentation:

- CERT Casualty Report will be completed while patient is being treated
- Information from the CERT Casualty Report will be transferred to the CERT Casualty List. This list remains with the CERT.

Stage 6: Reassessment

- Continually Reassess Situation and Make Appropriate Adjustments and Assignments
- Prepare for Contact with Authorities

Session Summary

Disaster Psychology

- Survivors go through various phases
- Survivors will experience psychological and physiological symptoms
- Assist by establishing rapport, listening, and maintaining confidentiality
- Be aware of own symptoms

Incident Command System

- Provides a flexible means of controlling personnel, facilities, equipment, and communication
- Rescuer safety
- Document

Conduct Small-Scale Disaster Simulation

Conduct Critique

Schedule Fire Suppression and Search and Rescue Classes

Advise of Next Full Scale Disaster Simulation